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September 18, 2006

BY HAND

**Commissioner for Patents  
P. O. Box 1450  
Alexandria VA 22313-1450**

Sir:

**Re: Patent Application Ser. No. 10/583,932  
National Stage Entry Filed: June 22, 2006  
Based on PCT/EP2004/013865 filed December 6, 2004  
Inventors: Werner Arts et al  
For: PROCESS AND ARRANGEMENT FOR DETERMINING  
WATER CONTENT  
Examiner: To be assigned  
Attorney Docket: 0034.1002**

**Submitted herewith is the English language translation of the  
INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY.**

Respectfully submitted,

George H. Spencer  
Registration No. 18,038

**GHS:ab  
Enclosure – as stated**

# PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference M/LAM-032-PC	<b>FOR FURTHER ACTION</b>		See item 4 below
International application No. PCT/EP2004/013865	International filing date ( <i>day/month/year</i> ) 06 December 2004 (06.12.2004)	Priority date ( <i>day/month/year</i> ) 22 December 2003 (22.12.2003)	
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237			
Applicant LAR ANALYTIK & UMWELTMESSTECHNIK GmbH			

1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).

2. This REPORT consists of a total of 7 sheets, including this cover sheet.

In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.

3. This report contains indications relating to the following items:

<input checked="" type="checkbox"/>	Box No. I	Basis of the report
<input checked="" type="checkbox"/>	Box No. II	Priority
<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input type="checkbox"/>	Box No. IV	Lack of unity of invention
<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input type="checkbox"/>	Box No. VI	Certain documents cited
<input type="checkbox"/>	Box No. VII	Certain defects in the international application
<input type="checkbox"/>	Box No. VIII	Certain observations on the international application

4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis.2).

Date of issuance of this report 29 August 2006 (29.08.2006)	
The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland  Facsimile No. +41 22 338 82 70	Authorized officer  <b>Agnes Wittmann-Regis</b> e-mail: pt06@wipo.int

**PATENT COOPERATION TREATY**

From the  
INTERNATIONAL SEARCHING AUTHORITY

To:

**PCT**

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

(PCT Rule 43bis.1)

		Date of mailing (day/month/year)	See form PCT/ISA/210
Applicant's or agent's file reference <b>M/LAM-032-PC</b>		FOR FURTHER ACTION See paragraph 2 below	
International application No. <b>PCT/EP2004/013865</b>	International filing date (day/month/year) <b>06.12.2004</b>	Priority date (day/month/year) <b>22.12.2003</b>	
International Patent Classification (IPC) or both national classification and IPC <b>G01N33/18, G01N33/00</b>			
Applicant <b>LAR ANALYTIK &amp; UMWELTMESSTECHNIK GmbH</b>			

**1. This opinion contains indications relating to the following items:**

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

**2. FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA, written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

**3. For further details, see notes to Form PCT/ISA/220.**

Name and mailing address of the ISA/EP	Authorized officer
Facsimile No.	Telephone No.

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/EP2004/013865

Box No. I Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

This opinion has been established on the basis of a translation from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

- a. type of material

a sequence listing  
 table(s) related to the sequence listing
- b. format of material

in written format  
 in computer readable form
- c. time of filing/furnishing

contained in the international application as filed.  
 filed together with the international application in computer readable form.  
 furnished subsequently to this Authority for the purposes of search.

3.  In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statement that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

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International application No.

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Box No. II Priority

1.  The following document has not yet been furnished:

copy of the earlier application whose priority has been claimed (Rule 43bis.1 and 66.7(a)).

translation of the earlier application whose priority has been claimed (Rule 43bis.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2.  This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43bis.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

The validity of the priority claim has not been considered because the International Searching Authority does not have in its possession a copy of the earlier application whose priority has been claimed or, where required, a translation of that earlier application. This opinion has nevertheless been established on the assumption that the relevant date (Rules 43bis.1 and 64.1) is the claimed priority date.

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.	PCT/EP2004/013865
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Box No. V	Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
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**1. Statement**

Novelty (N)	Claims <u>9-11</u>	YES
	Claims <u>1-8</u>	NO
Inventive step (IS)	Claims <u>9-11</u>	YES
	Claims <u>1-8</u>	NO
Industrial applicability (IA)	Claims <u>1-11</u>	YES
	Claims _____	NO

**2. Citations and explanations:**

**1. Reference is made to the following documents:**

D1: DE4309646A1 (SHIMADZU) 30 September 1993  
(1993-09-30)

D2: PATENT ABSTRACTS OF JAPAN vol. 1997, no. 11,  
28 November 1997 (1997-11-28) & JP09178723A  
(SHIMADZU), 11 July 1997 (1997-07-11)

D3: EP0512238A (HARTMANN & BRAUN) 11 November 1992  
(1992-11-11)

**2. Clarity**

2.1. The formulation "the element corresponding to the water constituent, in particular carbon and/or nitrogen" suggests that the calibration gas contains elemental carbon or nitrogen. However, the description indicates that the corresponding combustion products, in particular CO<sub>2</sub>, are used for calibration in the process of the invention. Claims 1 and 8 are therefore not supported by the description, as prescribed in PCT Article 6.

2.2. As a result of the formulation "incorporated or to be incorporated" in claim 8, the distinction between

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Box No. V

Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

the subject matter claimed and the prior art is unclear.

2.3. The features of the claims are not followed by reference signs placed between parentheses (PCT Rule 6.2(b)).

3. Independent claim 1

3.1. Document D3 discloses a method of measuring the TOC content of water, in which a sample of water is vaporized and burnt in a thermal reactor (OX) and the concentration of the CO<sub>2</sub> formed is determined in an NDIR detector. The IR detector is calibrated with a predetermined amount of a calibration gas (in a calibration cell (CAL)) which contains a known concentration of CO<sub>2</sub>.

All features of claim 1 are therefore known from D3, and the subject matter of this claim is not novel within the meaning of PCT Article 33(2).

3.2. In addition, the subject matter of claim 1 is also not inventive in view of the documents D1 and D2. It would be obvious to a person skilled in the art to employ the calibration of an IR detector (11) by means of a calibration gas source (12) as disclosed in D2 in the process described in D1 and thus arrive at the subject matter of claim 1.

4. Independent claim 8

WRITTEN OPINION OF THE  
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Box No. V Reasoned statement under Rule 43bis.I(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

4.1. It is certain that a calibration gas source can be "incorporated" into the apparatus described in D1. The subject matter of claim 8 is therefore not novel over D1.

4.2. In addition, a claim 8 restricted to an apparatus having an "incorporated" calibration gas source would not be inventive for the reasons given in point 3.2.

5. Dependent claims

5.1. Dependent claims 2-7 do not contain any features which, in combination with the features of claim 1, meet the PCT requirements for novelty and inventive step.

5.2. The use of at least one gas bottle which contains calibration gas and is connected to the flow path of the transport gas is not disclosed or rendered obvious by the prior art.

The subject matter of the dependent claims 9-11 is therefore novel and inventive within the meaning of PCT Article 33(2)(3).